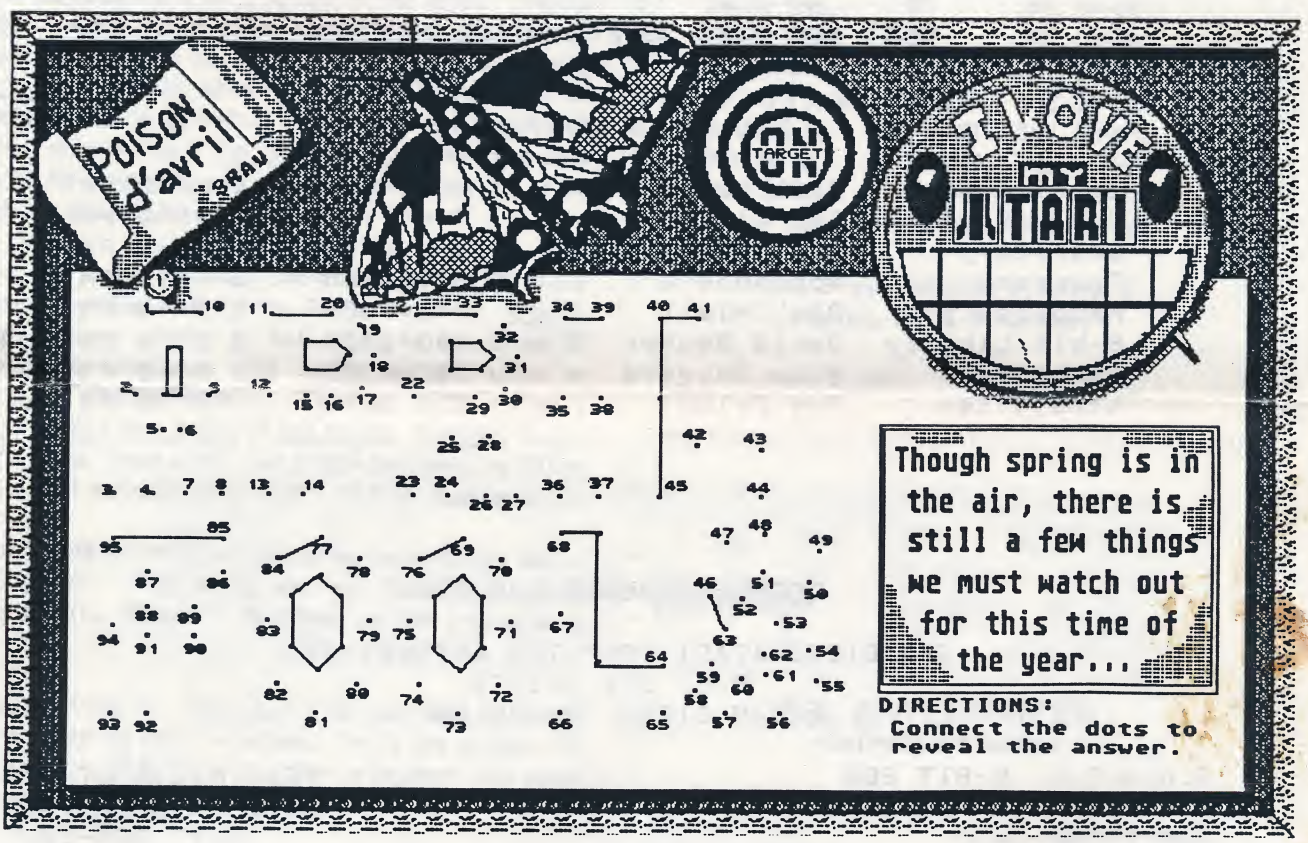
APRIL 1988!

The I/O Connector

The Newsletter for the San Diego Atari Computer Enthusiasts



THE SAN DIEGO ATARI COMPUTER ENTHUSIASTS

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SUBMISSIONS TO THE NEWSLETTER

The editor welcomes all submissions. They must arrive by the 2nd Tuesday of the month to be printed in the next month's newsletter. Mail printed copy or 3.5" ST format disks with return postage to the club P.O. Box, or upload to one of the S.D.A.C.E. bulletin boards by the 2d Monday of the month. Text must be in ST-Writer, 1ST WORD, WORD WRITER, WORD PERFECT, or ASCII format. Graphics must be hard-copy for the time being...

The Pursuit of Happiness

by Tom Briant

I erred last month in stating the 8-bit group would meet at the North Park Rec Center. They meet in Mira Mesa, where you can hold swap meets. I regret any confusion caused by that error.

Mike Bergman finally got his copy of Quantum Paint. Read his review on the back page to see whether you want it. If you own a synthesizer, check out Mike Street's impressions of CZ Android for the Casio CZ-101.

IRATA VERLAG, 1272B Potter Drive, Colorado Springs, CO 80909 offers several pieces of 8-bit hardware. The Super Turbo Interface allows any IBM compatible disk drive to attach to the 8-bit. You can enhance it with a booster system speeding up the drives and copy software allowing you to copy any IBM, ST, or 8-bit software. The No Thrills Interface only serves as a disk controller for one IBM compatible drive. It costs $90.00 for an advance order, and $130.00 after it ships in June. The Six System Box allows you to use 6 different ROM operating systems and select them with a flick of the switch. It costs $50.00.

520 and 1040 owners gripe about the promised blitter, but finally someone did something about it! Yes, Softrek brought out Turbo ST, a desk accessory speeding up text display for both GEM and TOS applications by substituting 68000 machine language routines for parts of the operating system and GEM written in "C". It won't speed up 1st Word, Word Writer, or Word Perfect. ST-Writer, though, moves! If you bought a MEGA, this program complements the blitter to bring about incredible speed. Cost? $49.95 at Computer Outlet.

Migraph has EDOS printer drivers for the new Hewlett-Packard DeskJet inkjet printer. These drives work with Migraph's E-Z Draw, Microsoft Write, Athena II CAD program, and other programs using EDOS.

TDI has an ADA compiler coming out. The Department of Defense requires ADA for all their new software. For the less ambitous, TDI has STarlight, a $29.95 Modula-2 compiler for beginners with source and object code for 2 games included.

Finally, ANALOG and ST-LOG resumed publication. They look about the same as before. No sex, and the only violence came from ads for a wrestling game endorsed by the WWF and a Three Stooges game.

LISTING OF SAN DIEGO AREA ATARI BBSs

Area Code 619, 300/1200 BAUD, 24 hours
unless otherwise noted

Code	Name	Computer	BAUD	Number
4 !	ST-SPACE	ST	2400	284-3921
1	Sherwood Forest	8-bit	3/12	276-5603
4	ST-MIDI Connection	ST	2400	452-7535
5 !	Computer Blvd.	ST	2400	589-0565
4 *	Computer Outlet	ST	2400	282-6815
6	8-bit SPACE	8-bit	3/12	566-3430
6	The Lord's House	8-bit	3/12	579-7354
8	The Looney Bin	8-bit/ST	3/12	390-4970
7 !	SMART 520 ST	8-bit/ST	3/12	480-9486
7 !	SMART 520 ST	8-bit/ST	3/12	726-4419
5 !	Computer Plus	8-bit/ST	2400	691-7862

1=TCxe, 2=Forem, 4=Michtron ST, 5=Forem ST
6=Express, 7=FIDO, 8=Proprietary

(*=limited hours, !=Magic Sac support)

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CZ-Android

by Michael Street

CZ-Android is a Patch Librarian/ Editor for the Casio CZ series of synthesizers. For those of you new to MIDI synths, as I am, a patch is a set of parameters that can be sent to the synth to create a certain sound. The patch contains information for the envelope(s) of the sound and the wave forms that the oscillators produce among other things. CZ-Android permits you to create new patches on screen which you may then download to your synth via MIDI. You may than store these patches on disk for later retrieval and use. Never having used a patch editor before, this review is based on using CZ-Android only.

CZ-Android utilizes GEM fully for ease of use and I did find it extremely easy to use. After running the program, the program starts in the librarian mode. This mode has three windows, each containing 16 slots. The slots correspond to the 16 patches that the CZ-101 synth can store at a time. 2 of the windows represent patches in computer memory, while the 3rd window represents the synth's memory. To load a set of patches, you just use the menu bar to load a file to one of the computer's memory windows and then drag the patches you want to the synth window. I found it very simple to use. There is a 4th window called workspace that only has one slot, it is used for editing patches. In edit mode, a separate screen appears graphically showing all 94 parameters that a patch consists of. Unless you are very well versed in patch designing, creating a meaningful patch from scratch is difficult. That's where the Android function comes in. When you choose the Android function, artificial intelligence routines create a musically useful patch which you may then modify by changing various parameters. Using this function, you can create an almost infinite variety of interesting sounds. After you create a patch, you can then name it and save it on disk. All menu functions have a corresponding keyboard equivalent, so you have a choice of using the mouse or keyboard. The disk is copy-protected, but can be copied to hard disk if you have the original in the floppy drive.

If you own a CZ synth and want to create your own patches, I think CZ-Android is a must. CZ-Android is made by Hybrid Arts, Inc. the makers of MIDI-MAZE.

CZ- Android
Hybrid Arts, Inc.
11920 W. Olympic Blvd.
Los Angeles, CA 90064
$99.95

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CLUB NEWS 8-BIT
(RR Miller)

BBS

Our 8-bit BBS is being combined with the ST BBS, ie, we are purchasing a larger hard disk drive and BBS software that will work both ST's and 8-Bits. This will centralize our club hardware and put our club info under one roof. As a result, I have sold the broken ATR8000 and intend to run an ad to sell the 4 quad density Shugart floppy drives. If anyone would like these drives, they are the slimline (1Meg) Shugart's in an IBM PC/XT drive cabinate with power supply and cables. These drives alone sell for $90 each (no cabinate or power supply). The club is willing to sell the whole set for $200. These drives will of course work with any computer which has a general floppy interface. Anyway, the old 8_Bit BBS phone has been disconnected. Anyone wanting the floppy drives should call Ron MIller (748-7195).

CLUB LIBRARY

I have the club library and will bring it to all future meetings. I will have a library directory at the meetings also.

COMPUSERVE NEWS

I spend significant time browsing the Compuserve Network and will bring any news to the club meetings.

CLUB MEETING PLACE

The last club newsletter published the wrong meeting place for our 8-Bit club meetings. Please note, we still meet in the Mira Mesa facilities, and if we ever change the meeting place, it will only be after several months warning. Our current facilities are very nice and we can hold all the swap meets we like. The swap meets are my favorite aspect of club meetings.

NEW MEMBERS

Our club flyers have been distributed to many stores and placed on many bulletin boards. It is already paying off because we are picking up many new members. This is good because we need some fresh ideas and energy. The 8-Bit club also could use a new club librarian. The librarian comes to all 8-Bit meetings, brings the library and sometimes collects new public domain software to add to the library.

EASY.ACT

Some DEFINEs and a discussion

for ACTION! (and C?) programmers

by

John Kelleher, SOACE member

ACTION! is a high-level language for the Atari 8-bit computer which incorporates features found, for example, in PASCAL and C. A set of defines for the C language called Easy C was proposed by Pete Orlin and John Heath (BYTE magazine, 5-86). Their basic idea was to make C easier for non-adepts, and to make C programs easier to maintain.

ACTION! programmers can save the following set of defines under the name EASY.ACT. They are based on Easy C, with some possibly significant additions. Using these defines will not change the compiled code in any way, but it may make creating, reading, debugging, and maintaining programs easier.

The ACTION! language already addresses several of the problems Easy C was designed to fix. For Example, ACTION!s IF and FI, DO and OD, more readably demark program structures than the equivalent C symbols; therefore Easy C's "fix" of this kind of problem is unnecessary in ACTION!. Still, many defines in Easy C are also useful in ACTION!. After a great deal of experimentation, I incorporated some of the defines of Easy C into a set of ACTION! defines, and then added a few of my own. Save the defines under a name such as EASY.ACT, and INCLUDE them at the very beginning of programs. A discussion follows the set of defines. Check your typing!

```
MODULE

DEFINE IS          = "=",
       IS_ITSELF   = "==",
       AT_ADR      = "=",

       EQ          = "=",
       NEQ         = "#",
       LT          = "<",
       GT          = ">",
       LE          = "<=",
       GE          = ">=",

       BAND        = "&",
       BOR         = "%",
       BXOR        = "!",

       POINTS_TO   = "=",
       ADR_AT_LOC: = "",
       VAL_AT_LOC: = "",
       VAL         = "",
       ADR         = "",
       SEES        = "^",

       ADR_OF_VAR: = "@"

MODULE ;end EASY.ACT, begin your program
```

Some or all of these defines may not be useful in a particular program, but since they don't change the compiled code at all and take up very little text space in the editor, I simply include them all at the head of all my programs. C programmers will want to consult the original Easy C article for additional defines and discussion, but they may also be interested in adapting EASY.ACT for their purposes, since EASY.ACT attempts to clarify some things not dealt with by Easy C, notably pointer usage. The following example uses all of the EASY.ACT defines. (Non-ACTION! programmers: a CARD is a two-byte value).

```
PROC example()
   DEFINE black = "0"
   BYTE original_color,
        a,
        b
   BYTE POINTER screen_color
   CARD normal
   CARD POINTER display_list,
                screen_data
   BYTE ARRAY my_screen AT_ADR 0

   Graphics(0)
   PutE()
   Print("Input a (0-255):")
   a IS InputB()
   Print("Input b (0-255):")
   b IS InputB()

   IF
        a GT b
        THEN
           a IS_ITSELF BXOR $FF
           PrintF("inverse a=%U%E",a)
   ELSE
           a IS_ITSELF + b
           PrintF("a=a+b=%U%E",a)
           PrintE("256=0,257=1,etc.")
   FI
   PrintF("%E*any key to continue*%E")
   GetD(7)

   screen_color POINTS_TO VAL_AT_LOC: 710
   original_color IS VAL screen_color SEES
   VAL screen_color SEES IS black
   PrintE(*hit any key*")
   GetD(7)
   VAL screen_color SEES IS original_color
   PrintE(*hit any key*")
   GetD(7)

   PrintE("RAM loc. 0-959 displayed on screen")
   PrintE("*any key to see, any to exit*")
   GetD(7)
   display_list POINTS_TO ADR_AT_LOC: 560
   screen_data POINTS_TO ADR_AT_LOC:
               ADR display_list SEES + 4
   normal IS ADR screen_data SEES
   ADR screen_data SEES IS
                   ADR_AT_LOC: my_screen
   GetD(7)
   ADR screen_data SEES IS normal
   PrintE("back sate and sound!")
   PrintE("*hit any key*")
   GetD(7)

   Print("'my_screen' holds the address ")
   PrintF("%U,%E",ADR_AT_LOC: my_screen)
   PrintE("(the address of the array), but")
   PrintE("the name 'my_screen' itself ")
   PrintF("is at %U%E",ADR_OF_VAR: my_screen)

RETURN
```

The example program contains no clarifying "comment" lines, yet, because of format, choice of variable name, and use of EASY.ACT, it may be understandable even to those not versed in ACTION!. Possibly EASY.ACT makes an already very good language, ACTION!, even a little bit better.

J. Kelleher 2.19.88 rev. 2.23.88

COPY FILES TO D8: (130 XE RAMDISK)

AUTOMATICALLY AT BOOT-UP

by

John Kelleher

Here is a BASIC program which will copy files from drive 1 to the ramdisk (D8:). As stated in the program, you can load the program SETUP.COM (from your DOS 2.5 master disk) and get COPY1TO8.BAS to run at boot-up, so your ramdisk has the files you want in it immediately.

Other 8-bit Ataricans may be interested in this program also, since it is a true BASIC copy utility. For instance, change line 180 to:

```
180 FILESPEC$="D2:":IOCBNUM=2
```

and the D1: files will be copied to D2:. As another example, change line 180 to:

```
180 FILESPEC$="E:":IOCBNUM=2
```

and delete line 200. Your files will be copied to the screen. In other words, you can quickly re-define both input and output filespecs to read from or copy to any device.

(If you use a double-density DOS instead of DOS 2.5, you should change the value of SECTOR (line 640) to (I guess) 256-3=253. The program should still work, though obviously I haven't tried it.)

```
10 REM COPY1TO8.BAS
12 REM Copies D1: files TO D8: (130 XE)
14 REM Use DOS 2.5 AUTORUN-maker
16 REM to have this program copy files
17 REM to ramdisk at boot-up.
18 REM (Use lines 1000-1998 for your filenames).
20 EQUATES=600:GOSUB EQUATES
30 ? CHR$(125)
40 ? "COPYING FILES TO RAMDISK":? :?
99 REM COPYTHEM
100 READ FILENAME$
110 IF FILENAME$="-1" THEN END
111 REM or: THEN RUN "D8:MYFILE.BAS"
119 REM Input from
120 FILESPEC$="D1:":IOCBNUM=1
130 OFFSET1=IOCBNUM*16
140 FILESPEC$(4)=FILENAME$
150 CMD=BGET:BUFLEN=SECTOR
160 BUFADR=ADR(BUFFER$)
170 GOSUB SETUPIO
175 ? "Copying ";FILESPEC$;" to D8:"
179 REM Output to
180 FILESPEC$="D8:":IOCBNUM=2
190 OFFSET2=IOCBNUM*16
200 FILESPEC$(4)=FILENAME$
210 CMD=BPUT:BUFLEN=SECTOR
220 BUFADR=ADR(BUFFER$)
230 GOSUB SETUPIO
235 POKE 195,0
239 REM CALLCIO
240 A=USR(ADR(CIO$),OFFSET1)
241 IF PEEK(195) THEN GOTO ERROR
250 A=USR(ADR(CIO$),OFFSET2)
251 IF PEEK(195) THEN GOTO ERROR
260 GOTO CALLCIO
299 REM ERROR
300 IF PEEK(195)=EOF THEN NOTE #1,SECNUM,
    LASTBYTE
310 CLOSE #1
320 IF PEEK(195)<>EOF THEN ? "*ERROR* ";
    PEEK(195):END
330 POKE IOBUFLEN+OFFSET2,LASTBYTE
340 POKE 195,0:A=USR(ADR(CIO$),OFFSET2)
350 CLOSE #2
355 IF PEEK(195) THEN GOTO ERROR
360 GOTO COPYTHEM
399 REM SETUPIO
400 IF CMD=BPUT THEN AUX1=WRITE
410 IF CMD=BGET THEN AUX1=FETCH
420 CLOSE #IOCBNUM:OFFSET=IOCBNUM*16
430 TRAP ERROR
440 OPEN #IOCBNUM,AUX1,0,FILESPEC$
450 HIBUFLEN=INT(BUFLEN/256)
460 LOBUFLEN=BUFLEN-(HIBUFLEN*256)
470 POKE IOBUFLEN+OFFSET+1,HIBUFLEN
480 POKE IOBUFLEN+OFFSET,LOBUFLEN
490 HIBUFADR=INT(BUFADR/256)
500 LOBUFADR=BUFADR-(HIBUFADR*256)
510 POKE IOBUFADR+OFFSET+1,HIBUFADR
520 POKE IOBUFADR+OFFSET,LOBUFADR
530 POKE IOCMD+OFFSET,CMD
540 RETURN
599 REM EQUATES
600 DATA 104,104,104,170,32,86,228
601 REM PLA,PLA,PLA,TAX,JSR $E456
602 DATA 48,1,96,132,195,96
603 REM BMI 1,RTS,STY 195,RTS
610 DIM CIO$(13),FILENAME$(20),FILESPEC$(20)
620 FOR I=1 TO 13:READ BYTE
630 CIO$(I,I)=CHR$(BYTE):NEXT I
640 SECTOR=125:DIM BUFFER$(SECTOR)
650 IOBUFLEN=840:IOBUFADR=836
660 IOCMD=834:FETCH=4:WRITE=8:EOF=136
670 BPUT=11:BGET=7:CALLCIO=240
680 COPYTHEM=100:SETUPIO=400:ERROR=300
690 RETURN
999 REM *Put your filenames here*
1000 DATA MYFILE.BAS,BIN.OBJ,TEXT.DOC
1999 REM (should copy any linked file)
2000 DATA -1
```

Is Quantum Paint Really a Quantum Leap...Backwards?

by Michael Bergman

In the beginning came Neochrome, THE first generation paint program for the Atari ST. It worked only in low resolution so you needed a color monitor. For a "free" program, and for its time, it was a powerful program. D.E.G.A.S. by Tom Hudson successfully challenged Neochrome's standing as THE paint program for the Atari. Then came the first second generation paint program, D.E.G.A.S. Elite. It worked in all three resolutions with a wide range of features. Still, it could only display sixteen colors at one time.

Then came the third generation paint program Spectrum which allows 512 colors on the screen at once (with some minor limitations). Like Neochrome, the pictures are all low resolution.

Meanwhile, our British cousins had their own third generation paint program called Quantum Paintbox. The program came to the states with the name Americanized to Quantum Paint.

Programs such as Spectrum and Quantum Paint are processor intensive, meaning that the computer can do much more than show the picture. That, though, is the only similarity between the two programs.

Quantum Paint allows the user create to low resolution pictures with either 128 colors, 512 colors, or 4096 colors and medium resolution pictures with 32 colors. The 512 "Enhanced Color" mode is comparable to Spectrum except that Spectrum allows 48 colors per scan line while QP allows only 30 - 40, and I noticed that it only allowed seven different color pixels in consecutive order. The 128 color mode does not take up as much processor time. QP has a delta compression utility allowing the chaining of 128 color pictures for animation, much like the delta files created using CAD-3D 2.0. The 128 color mode allows a 16 color display in each of the eight sections of the screen. The eight sections stack on top of each other with the first section at the top and the eighth section at the bottom. You can resize each section or even turn it off, which increases the size of the section below or above it. The sections cannot be positioned with one section on the left hand of the screen and another section on the right hand. Because of this, it is unlikely that the full 128 colors can be used, as one color in each section holds a background color. If it is changed, the section size will become apparent. The 32 color medium resolution mode works the same as the 128 color mode except that each section has only 4 colors.

The 4096 "interlaced" mode means that 7 out of 8 colors "flicker": they are composites of two solid colors. Some colors flicker so badly that they are virtually unusable while others are hardly noticeable. Most of the colors fall in the middle of the two extremes.

The program has two control panels; one for the tool kit and the other one for the file and some of the tools. The tools include the "freehand", eraser, line, polygon frame, filled polygon, rays, box frame, filled box, circle, filled circle, airbrush, and text. It also has a flood fill tool that allows the user to fill an area with a color pattern although it is not usable in the 512 or 4096 color modes. It can copy an area of the screen to another area or simply move it to another area. You can use all of the standard Atari patterns, but I was not able to create my own patterns. Only twelve brushes are available but they are editable by double-clicking on the brush to be changed.

A 512 or 4096 color palette ideally should show detailed work which includes anti-aliasing. Quantum Paint has no tools available for anti-aliasing. I had to do it all by hand using the "zoom" tool which allowed me to change the picture pixel by pixel. SLOW and tedious work. The program does not respond quite fast enough to my clicking mouse and at other times I lost colors on the same scanline because of the changing of pixels. I would easily spend several hours detailing a picture already created with CAD-3D.

Quantum Paint can import Neochrome and D.E.G.A.S. PI1 and PI2 files for editing. It cannot convert Spectrum pictures (which isn't surprising since the two programs came out at roughly the same time) nor IFF files.

You cannot use desk accessories in Quantum Paint, and it has no dropdown menus. A secondary control panel provides all of the features you would expect in a menu including loading and saving files, quitting QP, and a print utility allowing you to print a picture on a monochrome printer. QP does not support color printers yet.

The manual is complete, competent, and <u>essential</u>! You must read the manual! When you run Quantum Paint for the first time after you turn on your computer, it asks you for a word in a specified place in the manual chosen at random. As long as you do not turn off the power, it will never ask you for that word again, even if you quit the program and run it again. Blame it on piracy.

Eventually, Eidersoft (which is the distributor of Quantum Paint) will offer a package including routines and source codes for what they termed "a reasonable price". Eidersoft has not released that package and the documentation gives no hint as to the price.

So, for $45 you get a paint program that takes you beyond the 16 color limit, but with only a few unsophisticated tools.

	10 9 8 7 6 5 4 3 2 1 0
Ease of use	QQQQQ
Clarity of manual	QQQQQQQQQQQQQ
Completeness of program	QQQQQQQ
Value (price vs. performance)	QQQQQQQQQQ

Quantum Paint
Eidersoft Software Ltd., UK
Eidersoft Software, Inc. USA
Price: $44.95

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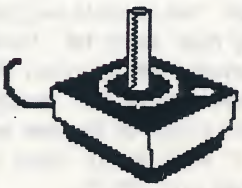

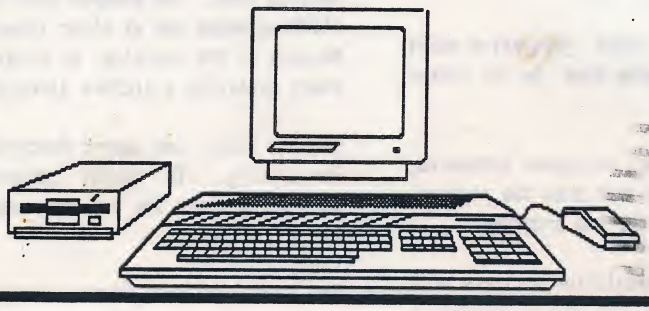

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EXP:JUN 88

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SAN DIEGO, CA 92126

The May 8-Bit meeting will be held
on May 12th in Mira Mesa
at 6:30 p.m.The ST beginners/hands-on workshop
will be held at North Park Rec Center
on May 5th. The regular ST meeting will be
on May 16th at the North Park facility